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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/551,871	04/18/2000	Kazunari Yoshida	0020-4699P	2420
7590 09/19/2005			EXAMINER	
Birch Stewart Kolasch & Birch LLP P.O. Box 747 Falls Church, VA 22040-0747			HUNTER, ALVIN A	
			ART UNIT	PAPER NUMBER
			3711	

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/551,871

Applicant(s)

YOSHIDA ET AL.

Examiner

Alvin A. Hunter

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 5-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 5-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

The indicated allowability of claims 4, 7, 8, and 14 are withdrawn in view of the Kim et al. reference applied in the office action dated 11/02/2004.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

1. Claims 1, 9-13, 15-20, 22, and 24-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (USPN 5184828) in view of Farrally et al. (Science and Golf III).

Regarding claims 1, 9, 10, 13, and 15-19, Kim et al. discloses a three-piece golf ball having a inner core, outer core, and cover wherein the golf ball exhibits superior rebounding and carrying characteristics (See Column 1, lines 42 through 60). Kim et al. discloses the inner core having a central hardness of 30 to 48 Shore D, or 50 to 73 JIS-C, and a hardness at the outer site of the inner core of 46 to 62 Shore D, or 71 to 92 JIS-C (See Abstract and Figure 1). The inner core also has a diameter of 23 to 35 mm (See Figure 1). The outer core has a hardness of 30 to 56, or 50 to 84 JIS-C, and a diameter of 36 to 41mm (See Abstract). From the disclosed ranges for the inner and outer core above, the outer core can have a thickness, or gage, from at least 0.5mm to 9mm. As shown above, the outer core is less than the surface hardness of the inner

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core by at least 21, and the surface hardness of the inner core is higher than the central hardness of the inner core by at least 21. It is also noted that both the inner and outer cores are made of polybutadiene, a co-crosslinking agent, an organic peroxide and fillers (See Columns 3 and 4). Kim et al. does not explicitly disclose a range difference for the outer core and inner but notes that the outer core must be lower than that of the inner core. Therefore, one having ordinary skill in the art would have drawn therefrom that the difference between the two layer may be of any value so long as the hardness of each layer are within the above ranges and the outer core is lower than the inner core. Kim et al. does not explicitly disclose the polybutadiene being at least 40% cis. High cis polybutadiene, in particular over 40% cis, have been employed in the cores of golf ball for over 20 years. If applicant is in doubt, see the prior art that has been cited throughout the prosecution. Also, Farrally et al. discloses that the higher the cis content, the higher the COR (See Page 411 and 412). One having ordinary skill in the art would have found it obvious to employ a polybutadiene having 40% cis content because it is common within the art. Furthermore, one having ordinary skill in the art would have found it obvious to employ a polybutadiene having a cis content of at least 40% in order to increase the COR of the golf ball.

Regarding claims 7, 8, 20, 22, and 24-36, Applicant does not set forth why having a diameter of at least 35.6mm versus 30mm is critical to attain the claimed invention. Kim et al. discloses a golf ball which achieves the same as that of the applicant which is improve flight performance and high rebounding performance (See first paragraph of column 1). One having ordinary skill in the art would have found it

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obvious to have any size core so long as the golf ball attains improved flight performance and high rebounding performance. In reference to the additional limitation of claims 20, 22, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, and 36 see the above regarding claim 1, 9, 10, 13, and 15-19.

Regarding claims 11 and 12, Kim et al. notes that the hardness of each site in between the inner core and outer core should not be within 2 units of each other; therefore, one having ordinary skill in the art would have drawn therefrom that the difference between the inner core and outer core can be any value so long as it is in the prescribed hardness range for the center hardness and surface hardness of the inner core and thus would have been obvious.

2. Claims 3, 6, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (USPN 5184828) in view of Farrally et al. (Science and Golf III) further in view of Hanada et al. (USPN 4483537).

Regarding claims 3, 6, and 21, Kim et al. discloses that the co-crosslinking agent may be metal salt such as zinc diacrylate, zinc dimethacrylate, and the like, but does not disclose the co-crosslinking being magnesium methacrylate. Hanada et al discloses a core having a metal salt co-crosslinking agent from the group of zinc acrylate, magnesium acrylate, zinc methacrylate, and magnesium methacrylate (See Paragraph bridging Columns 2 and 3). It is submitted that use of magnesium methacrylate is a substitutional material for that of a zinc acrylate type. One having ordinary skill in the art would have found the invention of Kim et al. to perform substantially the same

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substituting magnesium methacrylate for any other metal salt in order to increase the rebounding characteristics of the golf ball.

3. Claims 5 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (USPN 5184828) in view of Horiuchi et al. (USPN 5702312).

Regarding claims 5 and 23, Kim et al. discloses that the cover is made of an ionomer resin such as Surlyn™ and has a thickness of 0.9 to 2.6mm, but does not disclose the hardness of the cover (See Column 6, lines 31 through 38). Horiuchi et al. discloses a three-piece solid golf ball having a cover made of an ionomer, such as Surlyn™, having a Shore D hardness of 52 to 64 wherein the cover hardness attributes good flight distance, controllability, and feel to the golf ball (See Columns 2 and 3). One having ordinary skill in the art would have found it obvious to have a cover with a Shore D hardness, particularly of 58 to 75, in order to optimized the flight distance, controllability, and feel of the golf ball.

Response to Arguments

Applicant's arguments with respect to claims 1, 3, and 5-36 have been considered but are moot in view of the new ground(s) of rejection.

After review of Kim et al. and the applicant's specification, it was noticed that the applicant provides no critical reason as to what benefit the smaller thickness range of the outer core has versus the broadly disclosed range and what benefit the smaller diameter range of the inner core has versus the broadly disclosed range. For theses, reason the above action has been furnished.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alvin A. Hunter whose telephone number is (571) 272-4411. The examiner can normally be reached on Monday through Friday from 7:30AM to 4:00PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Vidovich, can be reached on 571-272-4415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AAH

Alvin A. Hunter, Jr.


STEPHEN BLAU
PRIMARY EXAMINER